WHAT IS CLAIMED IS:

1. A solid-state imaging apparatus, comprising:

a plurality of photosensitive cells disposed in a matrix in a photosensitive region on a semiconductor substrate; and

a driving unit for driving the plurality of photosensitive cells,

wherein each of the photosensitive cells includes:

a photodiode formed to be exposed on a surface of the semiconductor substrate, for accumulating signal charge obtained by subjecting incident light to photoelectric exchange;

a transfer transistor formed on the semiconductor substrate, for transferring the signal charge accumulated in the photodiode;

a floating diffusion layer formed on the semiconductor substrate, for temporarily accumulating the signal charge transferred by the transfer transistor; and

an amplifier transistor formed on the semiconductor substrate, for amplifying the signal charge temporarily accumulated in the floating diffusion layer,

wherein a source/drain diffusion layer provided in the amplifier transistor is covered with a salicide layer, and the floating diffusion layer is formed to be exposed on the surface of the semiconductor substrate.

2. The solid-state imaging apparatus according to claim 1, wherein an impurity concentration of the floating diffusion layer is lower than an impurity concentration of the source/drain diffusion layer of the amplifier transistor.

3. The solid-state imaging apparatus according to claim 1, wherein each of the photosensitive cells further includes a reset transistor for resetting the floating diffusion layer,

the driving unit includes:

a vertical driver circuit for simultaneously driving the transfer transistor and the reset transistor in a vertical direction;

a noise suppressing circuit for obtaining a signal output to a plurality of vertical signal lines disposed in a vertical direction in the photosensitive region; and

a horizontal driver circuit for outputting a signal from the noise

suppressing circuit in a time series by successively switching a plurality of horizontal transistors disposed in a horizontal direction, and

an impurity concentration of the floating diffusion layer is lower than an impurity concentration of a source/drain diffusion layer provided in a plurality of transistors constituting the vertical driver circuit and the horizontal driver circuit.

4. The solid-state imaging apparatus according to claim 3, wherein the source/drain diffusion layer provided in the plurality of transistors constituting the vertical driver circuit and the horizontal driver circuit is covered with a salicide layer.

5. The solid-state imaging apparatus according to claim 1, wherein the transfer transistor and the amplifier transistor are composed of an n-type MOS transistor.

6. The solid-state imaging apparatus according to claim 3, wherein the vertical driver circuit and the horizontal driver circuit are composed of a dynamic logic circuit.

7. The solid-state imaging apparatus according to claim 3, wherein an impurity concentration of a source/drain diffusion layer of a part of the plurality of transistors constituting the vertical driver circuit and the horizontal driver circuit is lower than an impurity concentration of a source/drain diffusion layer of another part of the plurality of transistors constituting the vertical driver circuit and the horizontal driver circuit.

8. The solid-state imaging apparatus according to claim 3, wherein a source/drain diffusion layer of a part of the plurality of transistors constituting the vertical driver circuit and the horizontal driver circuit is formed to be exposed on a surface of the semiconductor substrate, and a source/drain diffusion layer of another part of the plurality of transistors constituting the vertical driver circuit and the horizontal driver circuit is covered with a salicide layer.

9. The solid-state imaging apparatus according to claim 1, wherein an impurity concentration of the floating diffusion layer is 1×10^{18} cm^{-3} or less.

10. A method for producing a solid-state imaging apparatus comprising:

a plurality of photosensitive cells disposed in a matrix in a photosensitive region on a semiconductor substrate; and

a driving unit for driving the plurality of photosensitive cells,

wherein each of the photosensitive cells includes:

a photodiode formed to be exposed on a surface of the semiconductor substrate, for accumulating signal charge obtained by subjecting incident light to photoelectric exchange;

a transfer transistor formed on the semiconductor substrate, for transferring the signal charge accumulated in the photodiode;

a floating diffusion layer formed on the semiconductor substrate, for temporarily accumulating the signal charge transferred by the transfer transistor; and

an amplifier transistor formed on the semiconductor substrate, for amplifying the signal charge temporarily accumulated in the floating diffusion layer,

wherein a source/drain diffusion layer provided in the amplifier transistor is covered with a salicide layer, and the floating diffusion layer is formed to be exposed on the surface of the semiconductor substrate,

the method comprising:

forming the photodiode, the transfer transistor, and the amplifier transistor on the semiconductor substrate;

forming a resist in a predetermined pattern so as to cover the photodiode, the transfer transistor, and the amplifier transistor;

implanting ions into the semiconductor substrate using the resist as a mask so as to form the floating diffusion layer;

removing the resist and forming a salicide blocking film so as to cover the floating diffusion layer and the photodiode;

forming a source/drain diffusion layer of the amplifier transistor; and

forming a salicide layer so as to cover the source/drain diffusion layer of the amplifier transistor.

11. The method for producing the solid-state imaging apparatus according to claim 10, wherein an impurity concentration of the floating diffusion layer is lower than an impurity concentration of the source/drain diffusion layer of the amplifier transistor.

12. A method for producing a solid-state imaging apparatus comprising:

a plurality of photosensitive cells disposed in a matrix in a photosensitive region on a semiconductor substrate; and

a driving unit for driving the plurality of photosensitive cells,

wherein each of the photosensitive cells includes:

a photodiode formed to be exposed on a surface of the semiconductor substrate, for accumulating signal charge obtained by subjecting incident light to photoelectric exchange;

a transfer transistor formed on the semiconductor substrate, for transferring the signal charge accumulated in the photodiode;

a floating diffusion layer formed on the semiconductor substrate, for temporarily accumulating the signal charge transferred by the transfer transistor; and

an amplifier transistor formed on the semiconductor substrate, for amplifying the signal charge temporarily accumulated in the floating diffusion layer,

wherein a source/drain diffusion layer provided in the amplifier transistor is covered with a salicide layer, and the floating diffusion layer is formed to be exposed on the surface of the semiconductor substrate,

the method comprising:

forming a resist in a predetermined pattern on the semiconductor substrate;

implanting ions using the resist as a mask so as to form the photodiode;

removing the resist and forming the transfer transistor and the amplifier transistor on the semiconductor substrate;

forming a first salicide blocking film so as to cover the photodiode;

implanting ions into the semiconductor substrate so as to form the floating diffusion layer and the source/drain diffusion layer of the amplifier transistor;

forming a second salicide blocking film so as to cover the floating diffusion layer; and

forming a salicide layer so as to cover the source/drain diffusion layer of the amplifier transistor.

13. The method for producing the solid-state imaging apparatus according to

claim 12, wherein an impurity concentration of the floating diffusion layer is lower than an impurity concentration of the source/drain diffusion layer of the amplifier transistor.